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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,743	09/29/2003	David Moyer	SPNE0002	4211
22862	7590	10/04/2004	EXAMINER	
GLENN PATENT GROUP 3475 EDISON WAY, SUITE L MENLO PARK, CA 94025			ROJAS, BERNARD	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,743

Applicant(s)

MOYER ET AL.

Examiner

Bernard Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/15/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-22, 28, 32, 34 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-27, 29-31, 33 and 36-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Election/Restrictions***

Applicant's election with traverse of Embodiment 9 in the reply filed on 07/15/2004 is acknowledged. The traversal is on the ground(s) that claim 23 is generic with respect to embodiment 2, 3, 4, 6 and 9. This is found to be persuasive because claim 23 appears to be generic with respect to embodiment 2, 3, 4, 6 and 9. Applicant is reminded that upon the allowance of a generic claim, all of the claims to the species that depend from or otherwise include each of the limitations of an allowed generic claim will be rejoined.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 07/15/2004.

It appears claims 28, 32, 34 and 35 are not part of the species intended to be examined by Applicant, but directed to Embodiment 6. Therefore claims 28, 32, 34 and 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, means for storing

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energy recovered from at least one of the electromagnets of claim 28, the power source and regenerative braking system of claim 32, the software module of claim 34 and means to partially open and then close the valve of claim 35 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because the poor rendering and hand written reference numbers of figures 25 and 26 make it hard to identify the elements of applicant's invention. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

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amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 23-26, 31, 33 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Yanai [US 6,634,327].

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Claim 23, Yanai discloses a valve system [figure 1], comprising:

a valve assembly [4] linearly movable between a closed position and an open position;

a valve spring [14] which is compressed by the valve assembly when the valve assembly is located in the open position, and is uncompressed when the valve assembly is located in the closed position;

a disable spring [24] which is compressed by the valve assembly when the valve assembly is located in the closed position, and is uncompressed when the valve assembly is located in the open position;

at least one electromagnet [30]

at least one permanent magnet [38m]; and

a clapper [34] affixed to the valve assembly and movable in relation to the electromagnet and the permanent magnet.

Claim 24, Yanai discloses the valve system of Claim 23, further comprising:

means for providing energy to at least one of the electromagnets to increase a local magnetic field [40, col. 6 line 6-58].

Claim 25, Yanai discloses the valve system of Claim 23, further comprising:

means for providing energy to at least one of the electromagnets to decrease a local magnetic field [40, col. 6 line 6-58].

Claim 26, Yanai discloses the valve system of Claim 23, further comprising:

means for providing energy to at least one of the electromagnets to attract the clapper [40, col. 6 line 6-58].

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Claim 31, Yanai discloses the claimed valve system with the valve spring being isolated from the valve at the closed position and the disable spring being isolated from the valve at the open position [figure 1].

Claim 33, Yanai discloses the valve system of Claim 23, wherein both a north pole of said permanent magnet and a south pole of said permanent magnet are used to attract or repel said electromagnet [col. 4 line 60 to col. 5 line 38].

Claim 37, Yanai discloses the valve system of Claim 23, further comprising: an electromagnet core [38].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai [US 6,634,327], as applied to claim 23 above, in view of Lequesne [US 4,829,947].

Claim 27, Yanai discloses the claimed valve system with the exception of the clapper being made of a permanent magnet.

Lequesne discloses a valve system with a permanent magnet clapper.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a magnet armature in order to generate strong repulsion forces at the beginning of the armature motion [col. 1 lines 49-51].

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Claims 29, 30, 36, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai [US 6,634,327].

Claims 29 and 30, Yanai discloses the claimed valve system with the exception of the composition of the permanent magnet. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a permanent magnet of neodymium or samarium cobalt in order to increase the magnetic force of the magnet while reducing its size.

Claim 36 Yanai discloses the claimed valve system with the exception of the valve spring and the disable spring each have a different rate of compression. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use springs with different rates of compression in order to change the operating characteristics of the clapper such as the bias and the response time.

Claim 40, Yanai discloses the claimed valve system with the exception of wherein the valve spring and the disable spring have different lengths. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use springs of different length in order to change the operating characteristics of the clapper such as the neutral position and the response time.

Claim 41, Yanai discloses the claimed valve system with the exception of wherein the valve spring and the disable spring have different masses. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use springs of different mass in order to change the operating characteristics of the clapper such as the spring constant, the actuation energy required and the response time.

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Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai [US 6,634,327], as applied to claim 23 above, in view of Smith et al. [US 6,798,323].

Claim 38, Yanai discloses the claimed valve system with the exception of the clapper being made of using a laminated core.

Smith et al. discloses an electromagnet with a laminated core [abs].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laminated core of Smith et al. in the valve system of Yanai in order to reduce eddy currents in the core.

Claim 39, Yanai discloses the claimed valve system with the exception of the clapper being made of using a laminated clapper.

Smith discloses an electromagnet with a laminated armature [clapper] [abs].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laminated armature [clapper] of Smith in the valve system of Yanai in order to reduce eddy currents in the armature.

Conclusion

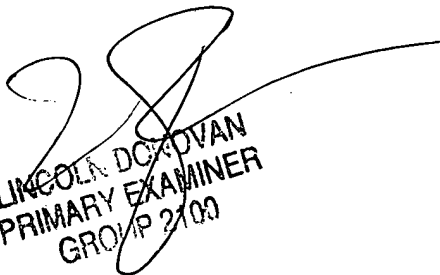
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Br


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